

I CLAIM:

1. A telecommunication system, comprising:
 an interface device on board an aircraft that interfaces with a wireless phone of a user inside the aircraft and with a wireless bearer system; and
 a controller that controls RF emissions of the wireless phone to maintain the RF emissions below a predetermined level.

2. A telecommunication system according to Claim 1, wherein the wireless bearer system is a SATCOM system,
 wherein said interface device receives signals from and transmits signals to
 10 the wireless phone and receives signals from and transmits signals to the SATCOM system, and
 wherein said controller controls said interface device to maintain the RF emissions of the wireless phone below a predetermined level.

3. A telecommunication system according to Claim 2, wherein said
 15 interface device also interfaces through the SATCOM system to a cellular network and then with a public switched telephone network to register the wireless phone as a roaming subscriber on the contacted cellular network.

4. A telecommunication system according to Claim 1, wherein the predetermined level is a level above which RF emissions will interfere with aircraft
 20 systems.

5. A telecommunication system according to Claim 2, further comprising:
 a SATCOM gateway on board the aircraft that converts signals received

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from the wireless phone to protocols of the SATCOM system and that converts signals received from the SATCOM system to protocols of the wireless phone.

6. A telecommunication system according to Claim 1, further comprising:

an antenna in a cabin of the aircraft that receives output signals from the wireless phone and conveys the output signals to said interface device.

7. A telecommunication system according to Claim 6, further comprising:

a media converter that conveys the signals between said antenna and said interface device.

8. A telecommunication system according to Claim 1, further comprising:

an RF detector that detects unwanted RF emissions above the predetermined level and unsupported cellphone types,

wherein said controller alerts crew members of the aircraft to the unwanted RF emissions and unsupported cellphone types detected by said RF detector.

9. A telecommunication system according to Claim 1, further comprising:

an external antenna that respectively transmits and receives direct cellular signals to and from the wireless phone when the aircraft is on the ground.

10. A telecommunication system according to Claim 1, wherein said interface device is a microcell.

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11. A telecommunication system according to Claim 1, wherein said interface device is a picocell.

12. A telecommunication system, comprising:

an interface device on board an aircraft that interfaces with a wireless phone of a user inside the aircraft and with a SATCOM system, said interface device receiving signals from and transmitting signals to the wireless phone, receiving signals from and transmitting signals to the SATCOM system, and interfacing through the SATCOM system to a cellular network and then with a public switched telephone network to register the wireless phone as a roaming subscriber on the contacted cellular network;

a controller that controls said interface device to maintain RF emissions of the wireless phone below a predetermined level, the predetermined level being a level above which RF emissions will interfere with aircraft systems;

a SATCOM gateway on board the aircraft that converts signals received from the wireless phone to protocols of the SATCOM system and that converts signals received from the SATCOM system to protocols of the wireless phone;

an antenna in a cabin of the aircraft that receives output signals from the wireless phone and conveys the output signals to said interface device;

a media converter that conveys the signals between said antenna and said interface device;

an RF detector that detects unwanted RF emissions above the predetermined level and unsupported cellphone types, wherein said controller alerts crew members of the aircraft to the unwanted RF emissions and unsupported cellphone types detected by said RF detector; and

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an external antenna that respectively transmits and receives direct cellular signals to and from the wireless phone when the aircraft is on the ground.

13. A telecommunication system, comprising;

means on board an aircraft for interfacing with a wireless phone of a user inside the aircraft and with a wireless bearer system;

means for controlling RF emissions of the wireless phone to maintain the RF emissions below a predetermined level, the predetermined level being a level above which RF emissions will interfere with aircraft systems,

wherein said means for interfacing receives signals from and transmits signals to the wireless phone and receives signals from and transmits signals to the wireless bearer system.

14. A telecommunication system according to Claim 13, wherein the wireless bearer system is a SATCOM system, and

wherein said means for interfacing also interfaces through the SATCOM system to a cellular network and then with a public switched telephone network to register the wireless phone as a roaming subscriber on the contacted cellular network

15. A telecommunication system according to Claim 14, further comprising:

means on board the aircraft for converting signals received from the wireless phone to protocols of the SATCOM system and for converting signals received from the SATCOM system to protocols of the wireless phone.

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16. A telecommunication system according to Claim 13, further comprising:

means for detecting unwanted RF emissions above the predetermined level and unsupported cellphone types,

5 wherein said means for controlling alerts crew members of the aircraft to the unwanted RF emissions and unsupported cellphone types detected by said means for detecting.

17. A telecommunication system according to Claim 13, further comprising:

10 means for respectively transmitting and receiving direct cellular signals to and from the wireless phone when the aircraft is on the ground.

18. A telecommunication system, comprising;

means on board an aircraft for interfacing with a wireless phone of a user inside the aircraft and with a wireless bearer system, said means for interfacing for
15 receiving signals from and transmitting signals to the wireless phone, for receiving signals from and transmitting signals to the wireless bearer system, and for interfacing through the wireless bearer system to a cellular network and then with a public switched telephone network to register the wireless phone as a roaming subscriber on the contacted cellular network;

20 means for controlling RF emissions of the wireless phone to maintain the RF emissions below a predetermined level, the predetermined level being a level above which RF emissions will interfere with aircraft systems;

means on board the aircraft for converting signals received from the wireless phone to protocols of the wireless bearer system and for converting

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signals received from the wireless bearer system to protocols of the wireless phone;

means for detecting unwanted RF emissions above the predetermined level and unsupported cellphone types, wherein said means for controlling alerts crew members of the aircraft to the unwanted RF emissions and unsupported cellphone types detected by said means for detecting; and

means for respectively transmitting and receiving direct cellular signals to and from the wireless phone when the aircraft is on the ground.

19. A method of two-way communications using a wireless phone on board an aircraft, said method comprising the steps of:

interfacing on board the aircraft with the wireless phone of a user inside the aircraft and with a wireless bearer system; and

controlling RF emissions of the wireless phone to maintain the RF emissions below a predetermined level.

20. A method according to Claim 19, wherein the wireless bearer system is a SATCOM system, and

wherein said interfacing step comprises receiving signals from and transmitting signals to the wireless phone and receiving signals from and transmitting signals to the SATCOM system.

21. A method according to Claim 19, wherein said interfacing step further comprises interfacing through the wireless bearer system to a cellular network and then with a public switched telephone network to register the wireless phone as a roaming subscriber on the contacted cellular network.

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22. A method according to Claim 19, wherein the predetermined level is a level above which RF emissions will interfere with aircraft systems.

23. A method according to Claim 20, further comprising the step of:
converting signals received from the wireless phone to protocols of the SATCOM system and converting signals received from the SATCOM system to protocols of the wireless phone.

24. A method according to Claim 19, further comprising the step of:
detecting unwanted RF emissions above the predetermined level and unsupported cellphone types,

wherein said controlling step comprises alerting crew members of the aircraft to the unwanted RF emissions and unsupported cellphone types detected in said detecting step.

25. A method according to Claim 19, further comprising the step of:
transmitting and receiving direct cellular signals to and from the wireless phone when the aircraft is on the ground.

26. A method of two-way communications using a wireless phone on board an aircraft, said method comprising the steps of:

interfacing on board the aircraft with the wireless phone of a user inside the aircraft and with a wireless bearer system, said interfacing step comprising receiving signals from and transmitting signals to the wireless phone, receiving signals from and transmitting signals to the wireless bearer system, and interfacing through the wireless bearer system to a cellular network and then with a public switched telephone network to register the wireless phone as a roaming subscriber

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on the contacted cellular network;

controlling RF emissions of the wireless phone to maintain the RF emissions below a predetermined level, the predetermined level being a level above which RF emissions will interfere with aircraft systems;

5 converting signals received from the wireless phone to protocols of the wireless bearer system and converting signals received from the wireless bearer system to protocols of the wireless phone;

10 detecting unwanted RF emissions above the predetermined level and unsupported cellphone types, wherein said controlling step comprises alerting crew members of the aircraft to the unwanted RF emissions and unsupported cellphone types detected in said detecting step; and

transmitting and receiving direct cellular signals to and from the wireless phone when the aircraft is on the ground.

27. Computer executable code for implementing a method of two-way
15 communications using a wireless phone on board an aircraft, said code for executing the steps comprising:

interfacing on board the aircraft with a wireless phone of a user inside the aircraft and with a wireless bearer system; and

20 controlling RF emissions of the wireless phone to maintain the RF emissions below a predetermined level.

28. Computer executable code according to Claim 27, wherein said interfacing step comprises receiving signals from and transmitting signals to the wireless phone and receiving signals from and transmitting signals to the wireless bearer system.

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29. Computer executable code according to Claim 28, wherein said interfacing step further comprises interfacing through the wireless bearer system with a cellular network and then with a public switched telephone network to register the wireless phone as a roaming subscriber on the contacted cellular network.

30. Computer executable code according to Claim 27, wherein the predetermined level is a level above which RF emissions will interfere with aircraft systems.

31. Computer executable code according to Claim 27, wherein the wireless bearer system is a SATCOM system, and said code for further executing the step of converting signals received from the wireless phone to protocols of the SATCOM system and converting signals received from the SATCOM system to protocols of the wireless phone.

32. Computer executable code according to Claim 27, said code for further executing the step of:
detecting unwanted RF emissions above the predetermined level and unsupported cellphone types,
wherein said controlling step comprises alerting crew members of the aircraft to the unwanted RF emissions and unsupported cellphone types detected in said detecting step.

33. Computer executable code according to Claim 27, said code for further executing the step of:

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transmitting and receiving direct cellular signals to and from the wireless phone when the aircraft is on the ground.

34. Computer executable code for implementing a method of two-way communications using a wireless phone on board an aircraft, said code for
5 executing the steps comprising:

interfacing on board the aircraft with a wireless phone of a user inside the aircraft and with a wireless bearer system, said interfacing step comprising receiving signals from and transmitting signals to the wireless phone, receiving signals from and transmitting signals to the wireless bearer system, and interfacing
10 through the wireless bearer system with a cellular network and then with a public switched telephone network to register the wireless phone as a roaming subscriber on the contacted cellular network;

controlling RF emissions of the wireless phone to maintain the RF emissions below a predetermined level, the predetermined level being a level
15 above which RF emissions will interfere with aircraft systems;

converting signals received from the wireless phone to protocols of the wireless bearer system and converting signals received from the wireless bearer system to protocols of the wireless phone;

detecting unwanted RF emissions above the predetermined level and
20 unsupported cellphone types, wherein said controlling step comprises alerting crew members of the aircraft to the unwanted RF emissions and unsupported cellphone types detected in said detecting step; and

transmitting and receiving direct cellular signals to and from the wireless phone when the aircraft is on the ground.

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35. A method of two-way communications using a wireless phone on board an aircraft, said method comprising the steps of:

providing a base station on the aircraft to receive outbound signals from the wireless phone; and

5 transmitting the outbound signals from the aircraft to a wireless bearer system for communication to a ground earth station.

36. A method according to Claim 35, further comprising the steps of:

receiving, by the base station, inbound signals from the wireless bearer system; and

10 transmitting the inbound signals from the base station to the wireless phone.

37. A method according to Claim 36, further comprising the step of:

interfacing, through the wireless bearer system, the base station with a cellular network and then with a public switched telephone network to register the
15 wireless phone as a roaming subscriber on the contacted cellular network,

wherein the base station controls RF emissions of the wireless phone to maintain the RF emissions below a predetermined level, the predetermined level being a level above which RF emissions will interfere with aircraft systems.

38. A method according to Claim 36, further comprising the step of:

20 converting signals received from the wireless phone to protocols of the wireless bearer system and converting signals received from the wireless bearer system to protocols of the wireless phone.

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39. A method according to Claim 36, further comprising the step of:
detecting unwanted RF emissions above the predetermined level and
unsupported cellphone types,
wherein the base station alerts crew members of the aircraft to the
unwanted RF emissions and unsupported cellphone types detected in said detecting
step.

40. A method according to Claim 36, further comprising the step of:
transmitting and receiving direct cellular signals to and from the wireless
phone when the aircraft is on the ground.

41. A method of two-way communications using a wireless phone on
board an aircraft, said method comprising the steps of:
providing a base station on the aircraft to receive outbound signals from the
wireless phone;
transmitting the outbound signals from the aircraft to a wireless bearer
system for communication to a ground earth station;
receiving, by the base station, inbound signals from the wireless bearer
system;
transmitting the inbound signals from the base station to the wireless
phone;
interfacing, through the wireless bearer system, the base station with a
cellular network and then with a public switched telephone network to register the
wireless phone as a roaming subscriber on the contacted cellular network;
controlling RF emissions of the wireless phone to maintain the RF
emissions below a predetermined level, the predetermined level being a level

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above which RF emissions will interfere with aircraft systems;

converting signals received from the wireless phone to protocols of the wireless bearer system and converting signals received from the wireless bearer system to protocols of the wireless phone;

5 detecting unwanted RF emissions above the predetermined level and unsupported cellphone types, wherein said controlling step comprises alerting crew members of the aircraft to the unwanted RF emissions and unsupported cellphone types detected in said detecting step; and

10 transmitting and receiving direct cellular signals to and from the wireless phone when the aircraft is on the ground.

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